

# Calibrating the Soil Thermometer

## Lab Guide

### **Task**

Calibrate the soil thermometer.

### **What You Need**

- ☐ Soil thermometer
- ☐ Calibration thermometer (determined to be accurate to  $\pm 0.5^{\circ}\text{C}$  using the ice bath method described in the *Atmosphere Chapter*)
- ☐ 500-mL beaker
- ☐ Water
- ☐ Wrench that fits nut on soil thermometer
- ☐ Science Log

### **In the Lab**

1. Pour about 250 mL of water at room temperature into a beaker.
2. Place both the calibration thermometer and the soil thermometer into the water.
3. Check that the water covers at least the lower 4 cm of both thermometers. Add more water if needed.
4. Wait 2 minutes.
5. Read the temperatures from both thermometers.
6. If the temperature difference between the thermometers is less than  $2^{\circ}\text{C}$ , stop; your soil thermometer is calibrated.
7. If the temperature difference is greater than  $2^{\circ}\text{C}$ , wait two more minutes.
8. If the temperature difference is still greater than  $2^{\circ}\text{C}$ , adjust the soil thermometer by turning the calibration nut at the base of the dial with the wrench until the soil thermometer reading matches the calibration thermometer.